

CLAIMS:

1 A method of discovering topology of a subnet fabric, comprising:
2 providing a plurality of elements in a subnet fabric, said elements including
3 switches, endnodes, and a subnet manager;
4 issuing a packet from said subnet manager to a first switch connected thereto;
5 reissuing a packet from said first switch to every element connected thereto;
6 repeating said reissuing from every switch which receives a packet until so
7 that all elements and all paths therebetween have received at least one packet;
8 issuing a return packet from an endnode in response to a packet.

1 2. The method according to claim 1, wherein said packet includes a batch request
2 for recovering a plurality of information from each endpoint that receives said packet.

1 3. The method according to claim 1, wherein node identification numbers
2 identify nodes of said subnet fabric so that path discovery is automatic.

1 4. The method according to claim 1, wherein said return packets return along the
2 same path as originally sent unless a switch through which it passes has received an earlier
3 packet.

1 5. The method according to claim 1, wherein every element and every port
2 therein are identified by number and a list is made in every packet of all elements and ports
3 through which said packet passes.

1 6. The method according to claim 1, wherein said packet contains a maximum
2 hop count and a hop pointer indicating if said maximum hop count has been reached.

1 7. The method according to claim 1, wherein a switch receiving a packet which
2 has passed therethrough before will issue a return packet.

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4 8. The method according to claim 1, wherein each switch receiving a packet
5 copies the incoming packet after adding the port number at which the packet is received.

1 9. The method according to claim 8, wherein the port number through which the
2 copied packet is to be issued is added before issuing.

1 10. A method of performing jobs on endnodes of a subnet fabric, comprising:
2 providing a plurality of elements in a subnet fabric, said elements including
3 switches, endnodes, and a subnet manager;
4 issuing a packet from said subnet manager to said endnodes through said
5 switches;
6 said packet containing a plurality of job requests in a batch request, each job
7 request performing a job on each endnode reached;
8 each endnode issuing a return signal for each job performed which returns to
9 said subnet manager.

11. The method according to claim 10, wherein said jobs are get jobs and set jobs.

1 12. The method according to claim 10, further comprising the use of a broadcast
2 mechanism with batch requests.

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4 13. A method of discovering topology of a subnet fabric, comprising:
5 providing a plurality of elements in a subnet fabric, said elements including
6 switches, endnodes, and a subnet manager;
7 assigning a unique identifier to each element and each port thereof in said
8 subnet fabric;
9 determining a directed route packet using said identifiers;
10 issuing said packet from said subnet manager to determine all paths in said
11 subnet fabric.

1 14. The method according to claim 13, wherein said packet is issued using a
2 broadcast method.

1 15. The method according to claim 14, wherein said packet is also issued using a
2 batch request.